THE METHOD OF CALCULATION THE QUALITY OF LIFE INDEX

Stasys Puškorius
Mykolas Romeris University, Lithuania
spusk@mruni.lt

Purpose. The goals of this presentation are: to determine the stages of calculation the quality of life index, to identify the quality of life index estimation branches, to distinguish main indicators which depict quality of each work out area, to introduce the corresponding mathematical models of each area, and present the method of calculation the integral quality of life index.

Design/methodology/approach. The paper includes introduction, determination major dimensions, which define the quality of life index, mathematical models of calculation the integer quality of life index and specific indicators suitable for every situation, estimation of ways to measure weigh constituent coefficients, choosing the unit of measurement of any indicator, discussion different ways of receiving necessary information.

Findings. The report states that the assessment of the diverse country's status, it is necessary to highlight the welfare of human life and quality criteria, which includes the following major dimensions: health situation, economic situation, environment situation, education situation, culture situation, moral-ethical and spiritual situation, security situation, legal situation, social relations situation.

The proposed mathematical model, in which quality of life index is calculated by summing up of aggregated and weighted up of those mentioned above values of situations' indicators.

Extremely difficult problem of measurement of weigh constituent coefficients is analyzed. The recommendations, which should be followed, are formulated. It is considered that, firstly, it is advisable to use research results of famous psychologist Maslow's, who composed the list of human needs in hierarchical order. According to A. Maslow, these needs are arranged in a strict hierarchy: the higher level needs an individual are important only when satisfied with the lower-level needs. Secondly, it

should be recognized that the representatives of the different groups in society in different areas of performance may significantly vary, so it is necessary to evaluate the structure of the community, the number of members in each group, and find a way to calculate these differences. Thirdly, it is necessary to realize that the weighting factors have the changeable character. Fourthly, we need to maximize the use of available statistical data, although in many cases the lack of and far from all the important indicators are reflected in the statistics, so it is necessary to invite experts, and use questionnaire for the survey population.

It is considered that during the examination of the impact of each mentioned situation on the quality of life index, it is necessary to decide, what indicators will be used, to ground the portfolio of these indicators, to determine the values of each indicator under what can take a decision on its qualitative impact, to identify ways how to measure the values of each indicator, to invite experts, capable perfectly recognize the peculiarities of the operation concrete situation and to propose ways to collect the necessary information to determine its relevance and the selection of possible sources of information, and to assess the validity and reliability of that information.

The mathematical model that allows computing summing up indicators of each situation is presented.

It is claimed that it is important to choose the unit of measurement of any indicator. The proposed unit of measure is the score; it may have three or even five graduations: in the first case, it would be a good, average and bad scores; in the second case it would be very good, good, average, bad and very bad scores.

The reading point for each indicator can be selected as a corresponding average point of indicator in Europe countries or in the world. Its graduation should be expressed in a percentage of the average, for example, 10 percent of the mean range. For each indicator it may be chose different percentages and intervals in the sizes of their range. These decisions may be made by experts on the basis of each indicator dispersion, interval, and frequency of specific values and their meaning.

It is claimed that when main indicators are selected and determined their graduations, it is necessary to carry out a survey of the population following the conclusion of such a questionnaire, which reflected the opinions of the population. Only when the residents expressed their opinion on the role of each indicator, can be obtained right conclusions.

It is considered that the system for selection of statistical data is not developed sufficiently both in Lithuania and elsewhere in the world to compute the necessary

evaluations of the quality of life index. In addition, the indicators measuring technology is developed insufficiently. It is claimed that the measurement system must be created individually for each indicator. The composition of such a system, its purpose and functions depends on what you want to measure, what kind of areas are covered by these objectives and the number of other factors and their combinations. Hence, it should be picked out the common and specific features of functioning of these systems.

The implementation phase of the measurement system encompasses many factors, among which should be mentioned following ones: the approbation of the system, i.e. the recognize if it could function properly; the introduction necessary data selection procedures; the establishment of the mechanism of the data processing and the approbation it; the implementation rules and procedures for the formulation of conclusions and recommendations; the inclusion of the obtained recommendations of the measuring system in the decision-making procedures.

Research limitations. Research is theoretical one. Author is going to make practical steps to use this method during the research participating in Project "Creation of system of measurement indicators and evolution model of quality of life Lithuanian population".

Practical implications. This theoretical study will be used during the research in mentioned Project.

Originality/Value. This method is modern one, not used before.

Key words: quality of life index; indicators; mathematical models; integral quality of life index.